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BICOLORATA BARK.

BY EDWARD E. PHELPS, M.D., LL.D., PROFESSOR OF THEORY AND PRACTICE OF MEDICINE, DARTMOUTH COLLEGE.

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THIS bark, which is not officinal in any Pharmacopœia and not much known to the profession at large, is certainly one deserving of attention, and bids fair to equal in value even the cinchona with which it has at times been confounded, and for which it has occasionally been sold in the shops.

Commercial History.—From all that can be learned, it seems that only one shipment has ever been made to this country, and that something more than forty years since. It came from one of the northern ports of South America to New Orleans, and samples of it were sent to the northern cities for sale. Some of the parcel sent to Boston was analyzed by the request of one of the prominent druggists of that day, but from the analysis showing that it contained no quinia, it was considered worthless, and its purchase in any quantity declined.

Natural History.—The bark is in quills, from one fourth of an inch to one inch in diameter, and from ten to eighteen inches in length. The thickness, varying with the size of the quill, ranges from one thirty-second to one sixteenth of an inch. Externally, the quills present a smooth, yet very finely shrivelled epidermis, varying in color from a light ash to a dark reddish ashen hue. On most of the quills may be noticed light colored oval patches, of a slightly irregular outline, and in size from one fourth of an inch to an inch and more in their longest diameter. Although these spots have the appearance of being superimposed upon the epidermis, and may even be detached, careful examination shows that they are a part of the true epidermis which have undergone some change. Upon the removal of the epidermis at these points, the subjacent parts present no different color from the general surface. The internal surface of the bark is usually quite smooth, and of a color

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much darker than the external; the prevailing shade is a very dark chocolate. The freshly-broken bark presents an orange yellow fracture, which is rough and seems to be at points almost resinous. The bark is hard, heavy and brittle. A microscopical examination of thin sections shows a structure entirely different from any cinchona, especially in the existence of some peculiar arrangement of tissues, like the medullary rays in some woods. Transverse to the ordinary spindle-shaped cells of barks, is another series of cells, running from near the epidermis deep into the liber. These cells are an oblong square in form, and seem to contain a semi-transparent yellowish matter, with a resinous appearance.

As to the botanical affinities of the tree from which this bark is obtained, we are yet in the dark. The bark, no doubt, is to be placed amongst the false cinchonas, and most of these, if not all, are derived from plants of the same natural order as the cinchona. Several of them are from species of the genus *Exostemma*, and Guibort supposes a bark which he calls *quinquina bicolore*, and which he says is called by the Italians *china bicolorata*, is derived from an *Exostemma*. Christison describes a bark like this, and which he showed me in the Museum of Materia Medica of the University of Edinburgh, saying that he derived it from Italian commerce. He thinks it to be a bark that Brera and other Italian physicians esteem very highly. By them it was considered as coming from the mountain of Pitaya, in Colombia, and was called, by the Italian pharmacologists, *china bicolorata*; while in commerce it went by the name Tecamer bark, and which yielded, by the analysis of Folchi and Peretti, an alkali termed *Pitayna*.

Wood describes this bark, calling it *cinchona bicolor* (a name first given it, I think, by Parrish), and says it was landed at New Orleans many years since, and afterwards sent to Europe; he also states that it is called *quinquina bicolore* by the French pharmacologists, and *china bicolorata* in Italy. He thinks it has been erroneously confounded with Pitaya bark, which is the hard Carthagena bark from which the alkali Pitayna was obtained. With such want of harmony in opinions upon its botanical origin, we may well consider that its natural history is incomplete, although it seems evident that, under the name *china bicolorata* and Tecamer bark, it has been used by the Italian physicians, and a high therapeutical value attached to it.

Pharmaceutical History.—The bicolorata bark was analyzed by Dr. A. A. Hayes, some years since, in order to ascertain what amount of quinia it contained, but his investigations show that it contained none. From some remark he made at the time, however, I inferred that he found either cinchonina or some other principle nearly allied to it. In October, 1860, Dr. Hayes made another analysis, with the following result:—

“The active matter of this bark is soluble in water, and in

alcohol and water. Analysis divides the whole soluble matter into resin and brown bitter principle; no trace of an alkaloid could be discovered.

"100 parts of the bark afford, by repeated solutions in water, 12 parts of red-brown bitter principle.

"100 parts of the bark afford, by digestion in alcohol, $4\frac{4}{10}$ parts of red-brown resinous matter.

"100 parts, after repeated digestions in alcohol, in proof spirit and in water, afford

Red-brown resin, - - - - - 4.45

Peculiar red-brown bitter principle, 14.42

Whole soluble matter, - - - - 18.87

"The active principles thus separated from the bark, decomposed as usual for alkaloids, did not show any indications of a basic character. In the extract, a slight indication of a kind of tannic acid was found, and lime water separated a coloring matter which was nearly or quite tasteless. The principles which give their character to the bark are a resinous body and a red-brown bitter principle. In water, the resinous body, repeatedly washed, does not cease to impart bitterness. It dissolves in alkalies, freely in alcohol, and the solution is not wholly decomposed when diluted with water. Dissolved in proof spirit, it has an aromatic and bitter taste not disagreeable.

"Water containing the bitter extract imparts its taste to a large volume of water. This bitter differs from that of quassia, in the impression produced upon the organ of taste being more closely like that of the salts of quinia.

"It is probable that the tonic effects produced by the bark are immediately dependent on the action of this soluble principle, which dissolves in acidulated as well as alkaline water."

I can find no other analysis of this bark, and, from the well-known accuracy of this expert analyst, suppose that its chemical character is fully disclosed.

The preparations of it are a tincture, and an acidulated decoction or infusion.

Therapeutical History.—I can learn but little in regard to the use of this bark beyond my own experience. This or a similar bark has been used in Italy as a tonic and in the treatment of intermittents, and, as above mentioned, was highly esteemed by Brera and others. My own observations upon this bark as a medicinal agent commenced at least twenty-five years since, and have continued uninterruptedly to this date. At first it was given only as a tonic in convalescence from fevers and other acute diseases. Gradually it was found to have some properties quite different from cinchona or any other tonic. Extended observation at length convinced me that this peculiarity consisted in its more immediate action upon the smooth instead of the striped muscles; or, in

other words, upon the organic muscular fibres like those in the walls of the stomach, intestines, &c., rather than upon the muscles of voluntary motion. By virtue of this power, this remedy proved of great service in all the atonic conditions, not only of the stomach and intestines, but also of all organs where the organic muscular fibre exists. At a later period of my investigations, I found that the bark had some power of increasing the quantity of blood, acting in this respect something like iron. Where, too, anything like a scorbutic diathesis existed, it seemed to restore the circulating fluids to a normal state and increase the firmness of the soft parts. Having now collected so many observations upon the remedial action of the bicolorata bark, I can speak with a good deal of confidence on the subject, and think that few if any remedies equal it in the following cases:—

1st. Those blood diseases in which there is a dyscratic condition, such as is seen in purpura and scurvy. In complicated anæmic states it is preferable to iron.

2d. In most of those constitutional diseases in which there is marked loss of muscular strength, with but little febrile reaction.

3d. In all atonic states of the digestive organs, especially the stomach.

4th. In debility from acute disease, or in that resulting from fever.

Hanover, N. H., February, 1861.

DR. WARE'S LECTURES ON GENERAL THERAPEUTICS.

[Communicated for the Boston Medical and Surgical Journal.]

LECTURE II.—(Continued from page 43.)

WHAT I wish particularly to enforce by this illustration is the rule of conduct before laid down, that a pathological diagnosis is alone a very imperfect guide to treatment, and that our therapeutical diagnosis—though always keeping the pathological in view—is to be formed by taking into consideration all those circumstances in the condition and symptoms of the patient, the modification of which will either directly promote the effort of nature for relief, or will remove obstacles to that effort. In phthisis, a knowledge of its pathology is principally of use in placing before us distinctly the object at which we are to aim, and preventing us from the attempt to accomplish that which is essentially impracticable—the direct removal of the disease. It establishes the limits of our art. The whole treatment is to be arranged with a regard to the symptoms which I have called secondary. Before the pathology of phthisis was understood, and it was supposed to be caused by hæmoptysis, to be the consequence of neglected or badly-treated catarrh or

pulmonary inflammation or dyspepsia, patients were subjected to a variety of active and exhausting treatment, in order to prevent the original disease, presumed to be curable, from being converted into a secondary one known to be incurable. Older practitioners can recollect the day when bleeding, leeches, emetics, purging, blisters, setons and issues were constantly used to contend with the phantom inflammation, in order to prevent its passing into the stage of ulceration; and when the sputa were studiously examined to determine—by some long-sought-for method of distinction—whether pus were present in them, this being the sign which decided the important point, and sealed the patient's doom. A better understanding of the condition of the lungs, and better means of determining that condition, have changed entirely our views of the objects of treatment, by demonstrating the limits within which we can work, and the principle upon which alone we are to expect any benefit from our interference. The result is shown in the greater comfort and the longer life of the unfortunate subjects of this disease.

I would here remark—though this has no direct connection with the principle I am endeavoring to illustrate—that it may seem doubtful to you whether it be worth your while to study in such detail the variations of a disease for which we acknowledge so little can be done in the hope of an absolute cure. This is a very natural view, and one which has sometimes no small influence in practice, yet is it by no means a just one. The office of the physician is not merely to promote recovery from recoverable diseases, but to alleviate the symptoms and suspend the progress of the irrecoverable. Now, pulmonary consumption is attended with as much suffering and anxiety both to the patient and his friends, as almost any disease, not only from its direct symptoms, but from its long duration, its alternations of hope and fear, and the emaciation and exhaustion attendant upon it. So, too, there are few in which more relief can be afforded both to body and mind by a management well adapted to the various conditions under which it presents itself. If we are to measure the good we do by the comfort we can give the body and the support we can give the mind, our attendance upon cases of this disease is really of more value than that upon many others far more tractable in their nature.

But to return. I have selected these two diseases as affording the best illustration of the principle I am desirous to enforce as being fundamental in therapeutics; first, because each is connected with a pathological condition for which no competent judge pretends that we have any direct remedy; and secondly, because each presents such an immense diversity of symptoms, in its beginning, its course, and its mode of termination, that they render clear to us the variety of treatment that may be required under the same pathological condition. It is true that there are those, both in the profession and out of it, who claim to be able to cure both ty-

phoid and phthisis by direct treatment. Such persons may be either honest or dishonest. If honest, they must be incompetent observers, and are not informed either as to the natural history of these diseases, or the history of opinion with regard to them. If dishonest, and professing to accomplish that which they know cannot be done, or at least do not know can be done, they simply belong, whether in the profession or out of it, to that great tribe of charlatans with which, in every department, mankind has been always infested.

It is easy to find a few examples which will illustrate more particularly the precise way in which this principle may be applied. In typhoid there are certain conditions in which the prospects of recovery are put in jeopardy by the presence of one or more symptoms, such as diarrhoea, epistaxis, intestinal hæmorrhage, suppression of urine. These we attempt to control by special treatment, not with the expectation at all of producing a direct effect upon the essential disease, but by removing a state of things which interferes with that natural course of processes by which alone the patient can recover. In phthisis, also, there are various irritating and exhausting symptoms interfering essentially with the comfort of the patient and accelerating the progress of the disease, which can be directly diminished, even if they cannot be entirely controlled. Such are cough, diarrhoea, hectic fever and night sweats.

The study of all diseases, except the few that are curable by direct remedies, would afford us additional illustrations of the same great law of treatment, though it cannot be pretended that, with regard to all of them, there is the same uniformity of opinion in respect to the absence of any direct influence of remedies over their pathological condition. Even of diseases that are unquestionably self-limited, it is believed by many that they can be arrested at their beginning, or, at any rate, that their duration can be shortened. Thus many physicians, whose knowledge and powers of observation are of the highest order, continue of the opinion that cases of pneumonia may be quelled at once by copious bleeding, or cured by mercurials or by placing the system under the controlling influence of antimony. We cannot undertake definitely to assert that this may not be so, but the tendency of medical opinion certainly has long been in the opposite direction.

It appears from this statement how it often happens that a very good pathologist may be an indifferent practitioner, and, on the other hand, an indifferent pathologist a good practitioner. One who has devoted himself very much to the study of the morbid conditions of organs, and knows them to lie at the foundation of the patient's danger, is naturally led to the opinion that these conditions should be the principal objects of attention. He is apt, also, to think less of treatment suggested by secondary conditions, and of the reflected influence it may have upon the primary. He

will be likely, also, to overlook the effect which remedies presumed to have a direct influence upon the diseased part, may have in reducing the forces of nature, and interfering with her process of recovery—a process, it may be said, not taking place independently in the organ affected, but depending in great part upon the capacity which the system, considered as a whole, has for carrying it on. On the other hand, one may be somewhat deficient in pathological knowledge, and yet a careful and sagacious observer of symptoms and their indications. He may have a just view of the agencies by which recovery is really brought about, and of the importance of husbanding all those resources which may contribute to it. In this way he enables the law of natural recovery to operate without disturbance and without any interference, except such as will fall in with its actual tendency. The best practitioner is he who combines both these elements.

This consideration enables us also to explain how it is that we can often treat cases very well, or at any rate do all that their nature admits, although we are not able to determine with precision what their real character is. We cannot make a pathological diagnosis, but we can make a therapeutical one. We may not know what organ is diseased, nor exactly how it is diseased, but we know that, however this may be, there is an effort making for its recovery independently of art, and that this effort depends for its success upon the efficiency and sufficiency of the constitutional powers. If, then, we watch their condition and aid them by such means as that condition indicates, we may very probably do all for the safety of the patient that we could were the intimate character of the disease perfectly clear to us. We may, for instance, judge in this way that the state of some organ, or of the system, is such as to require bleeding, though we may not know what organ. We may be quite ignorant of the actual pathological condition of a patient, and yet know that all we can do for him is to support and strengthen him. We may not know why a patient is watchful, or restless, or in pain, but we know very well that giving him quiet, sleep and ease are important requisites to his recovery. Those whose experience has mainly been in public institutions, and who have been familiar chiefly with the more marked and advanced cases seen in them, can hardly be prepared to realize how large a proportion of those constituting the bulk of private practice never exhibit those clear diagnostic marks which enable us to give them a place and a name. This especially happens in those earlier stages in which disease comes under the observation of the private practitioner, as compared with the public. It hence often happens that two practitioners may come to entirely different conclusions as to the seat or even pathological nature of a malady, and yet agree perfectly as to the method of treatment. The primary or pathological symptoms are obscure, confused, contradictory; the secondary, or therapeutical, are clear and obvious.

We may infer, also, from these statements, how much a good knowledge of the laws of prognosis will aid in determining a plan of treatment; or, in other words, in making up a therapeutical diagnosis. By prognosis, however, in this relation we do not mean a mere determination of the ultimate event, in recovery or death, but a prevision of the general course of changes through which the patient is to pass before either of these events takes place. How can we know what to do, unless we first know what will happen if we do not do? It is true that a perfect prognosis in this sense is one of the most difficult acts of judgment in practical medicine, and, indeed, such a judgment can only be approximately formed. So far, however, as we can form it, it must be our principal guide not only in determining what amount and kind of interference is necessary in any case, but also in determining how far this interference has been efficacious in controlling it. We cannot doubt that if we could know at the beginning of a disease what was to be its exact course and duration, what variety and intensity of symptoms were to arise, what events to occur, what causes of impediment or exhaustion to manifest themselves, we should be much better prepared to lay out a definite plan of treatment, to judge how much and how little interference was required, than with our present limited powers of judging. The nearer we can approach to such a knowledge of prognosis, the more competent we shall become to practise medicine upon principle. I venture to say that, so far as my own observation is concerned, it has seemed to be of more importance to treatment to be able to determine what the disease will do, than what the disease is.

The great amount of combined knowledge which is necessary in order to carry out the treatment of disease upon this principle, is to be obtained mainly by a thorough study of its natural history. This study runs parallel with that of the natural history of an animal. This is not completed when you have studied his form, his bones, and his anatomical structure, so as to fix his place in a system of classification. To complete it you must also learn his instincts, his degree of intelligence, his habits and mode of life, the variations he is made to undergo by season, climate and locality, his habitations, his food and his relations with man and his own and other species. A similar exhaustive method is to be applied to the natural history of a disease. Everything, however apparently unimportant, is or may be significant. Who would have supposed that a few drops of blood from the nose, or a trifling eruption of red spots on the abdomen, could ever serve to turn the scale in the diagnosis of so multiform a disease as typhoid fever? Who, that so unobtrusive a sign as a slight crackle below the clavicle would enable us sometimes to read at once the fate of a patient in phthisis? A careful study of therapeutic indications may hereafter lead us to the knowledge of signs not less suggestive as to the treatment of disease, than these are as to its diagnosis.

The importance of a careful study of the natural history of disease is well illustrated by the history of the treatment of that peculiar affection called delirium tremens. It was early observed, that when a case terminates favorably it is by the patient's falling into a profound and long-continued sleep. It was naturally inferred that the accident of sleep was the cause of the recovery, and not merely a sign of it. Consequently, it was further inferred that if sleep could be induced by artificial means, recovery would also take place. It was likewise presumed that, without this artificial sleep, most cases would go on to a fatal termination. With this view, the production of sleep was the only aim of treatment, and various remedies were resorted to with this purpose—as opium, emetics, digitalis, stramonium, alcohol, &c. &c., and when sleep took place it was judged to be produced by the remedy. It was found, however, that, in cases left mainly to themselves, or at least without any remedy administered with this special purpose, sleep and consequent recovery took place spontaneously within a period varying from forty-eight to ninety-six hours from the beginning of the paroxysm. And, further, that none of the remedies upon which reliance was placed ever produced sleep at an earlier period, whence it was to be inferred that the result attributed to remedies was in fact due to a natural solution of the disease.

The illustrations of the principles on which treatment is to be founded, have been chiefly drawn from the consideration of acute diseases. It is in these that we can most satisfactorily watch the processes in which they consist, and the mode in which recovery takes place. Acute diseases are more simple in their character, more definite in their course, and also more definite as to the time and manner of their termination, than chronic. But the principles announced are not the less applicable to chronic and even to irrecoverable diseases. In these the agency of the sanative effort is not less conspicuously present, either in promoting recovery, or at any rate impressing its character upon the processes by which even an unfavorable event takes place. Acute diseases are so short and definite in their course, their changes follow one another so rapidly, they come so soon to their termination, that it is a matter of great difficulty to determine how far treatment modifies their result. The same difficulty of judgment exists with regard to chronic diseases, but to a less degree, and not from exactly the same causes. Their course is not so steadily onward nor so precisely regulated. They may remain stationary for a long time. Their intensity varies, their symptoms are less uniform in their advance. There is more opportunity for protracted and deliberate observation of the effects of remedies, we are less liable to confound them with the progressive changes of the disease, and find it easier to distinguish those changes in the condition of the patient that are spontaneous, from those which are the result of treatment.

You will not understand me, by any of the remarks that have been made, to intend to detract at all from the value of pathological knowledge to the physician. On the contrary, they serve rather to show in what this value consists. The more rational treatment of our own day is in fact very much owing to the great progress made in this direction. It is pathology which has led us to more correct views of the limits of possible recovery, and established the boundaries between the practicable and the impracticable. In typhoid, it has shown that the phenomena of the disease and the course it takes are dependent upon, or associated with, morbid conditions which must necessarily go through certain changes before recovery can take place, and cannot be directly modified by any treatment. In phthisis, it has equally shown us that there is always present a state of structure essentially different from that produced by common inflammation, seldom if ever retrogressive in its character, and equally incapable with that of typhoid of being directly modified by treatment. It is, notwithstanding, true, as I have endeavored to show, that, whilst pathology indicates the principle upon which and the direction in which we are to proceed, in each individual case the plan of treatment is to be determined by other and secondary considerations.

I have entered thus minutely into the considerations connected with the first or natural method of treatment, partly because we are obliged to depend in so large a proportion of diseases upon this as our main reliance, but partly, also, because it is only by a thorough understanding of the laws and means of natural recovery, that we are at all prepared to judge how far we have the power of removing disease by direct remedies, or by the second method. As I have already stated, this is the simple and original idea of treatment among mankind; its reality has been a very general belief among physicians, and it is a belief to which we cling with great tenacity. It is difficult for the most determined advocate of the natural method to resist, at the bedside, the strong—it may be almost called—instinct, which impels him to interfere with a positive remedy for a positive evil. And he often can interfere, and with success. But, as I hope I have been able to make plain to you, this interference is for the most part directed to the secondary and not the primary conditions of disease, and is of efficacy not by directly removing the disease, but by promoting, directly and indirectly, that spontaneous movement of the system which is striving for its removal.

Yet as there are remedies, which, so far as we have the means of judging, have a direct and definite power over disease, it is of the utmost importance to know what they are. The clearest and most universally acknowledged of them have been already enumerated, but the question is constantly arising in actual practice, whether these are all, and upon this point there is

room for a wide difference of opinion. No two physicians would perhaps agree in drawing up a catalogue of those remedies which they believe possessed of this direct power. To a certain extent such a difference of opinion may be wholly theoretical. Thus, when opium is administered in the treatment of pneumonia, of rheumatism, or of peritonitis, one man may suppose that it cures the inflammation by a direct influence, another that it merely alleviates the suffering of the patient, suspends certain activities which tend to reduce the vital forces, and thus prevents the exhaustive effects of the processes of disease and enables those processes to go through in a more favorable manner. Here it is a mere question of theory, for both may administer the drug in the same way and in the same state of things. But this is not always so; the determination often becomes of practical importance, and in the aggregate it can never be a matter of indifference whether we understand the principle upon which remedies are applied, or do not understand it.

This is a subject with regard to which we are called upon to judge every day of our lives. There is no case coming before us concerning which the inquiry does not virtually present itself—is there any remedy capable of directly removing this disease? Habit and experience often enable us, in actual practice, almost instinctively to answer the question at once, but the solution is not always so easy, and we are constantly at a loss to know whether our treatment has had any efficacy at all, or, if it have, of what nature this efficacy has been.

Enough has been said, I trust, to show you with how many difficulties the act of judgment in therapeutics is surrounded. Indeed, I doubt whether there is any subject presented to the human mind relating to matters of fact, where it is so hard to arrive at satisfactory conclusions, and be assured that we have reached the absolute truth. On beginning your studies you can have no just idea of this, for those out of the profession have no conception of the tangled nature of medical evidence, or of the embarrassments which impede the formation of a medical judgment, and you have entertained, probably, the opinions on this subject which are current among mankind. But as nothing so impedes improvement as too exalted an idea of the knowledge already possessed, it is well to begin with adequate conceptions of the uncertainties, the doubts and the difficulties of medical practice.

The first principle to be instilled into the mind of the young practitioner is to study the treatment of disease, and to form and hold opinions concerning it, in a spirit of profound humility—to bear constantly in mind that the convictions of the most learned, the most able, the most experienced, the most wise, can be only an approximation to truth; and that there are few rules, or even principles, which may not require to be reviewed, to be modified, even to be discarded;—to avoid acquiring habits of practice so

fixed as to indispose him to resist the influence of evidence as to their correctness, from whatever source it may come;—to avoid as well that frame of mind which leads to the ready adoption of changes in practice upon insufficient grounds, and which shifts from one kind of treatment to another, or from one favorite remedy to another, as whim or fashion may suggest. Opinions are not to be lightly formed or lightly changed.

For the cultivation of this habit of mind, we find sufficient reason in what we observe of the contradictory opinions on points of practice, held by men equally qualified by knowledge and experience; in the changes which so frequently take place in the practice of the same man—beginning life with bleeding, vomiting and purging—ending it with stimulants, tonics and narcotics; in the pertinacity with which some adhere to the doctrines and methods of their fathers and teachers, admitting no deviations from the time-honored track; in the facility with which others fly from remedy to remedy, from drug to drug, as fashion or the last Journal may impel them; who *cured* every disease last year with prussic acid, who *cures* them this year with creasote, and will *cure* them next year with some new favorite panacea.

A glance at the practice of the past teaches us the same lesson of humility, and should teach us to enter upon our duties in the same spirit of cautious philosophy. We can hardly believe that specific efficacy could have been attributed to the calcined powder of the thigh-bone of a man who had been hanged—to the heart of a mule who had been ripped up alive—to the lungs of a man who had died a violent death—to the hand of a thief who had been gibbeted—to the royal touch—to vipers, toads and spiders—beside many other remedies and modes of treatment equally revolting.

We smile, perhaps with contempt, at what seems to us the absurdity of such remedies, and the credulity of those who put their faith in them. But who were they who thus believed? Men of mark in their day. Some of them eminent as philosophers and physicians. Earnest seekers of knowledge and lovers of truth. We perhaps have made certain advances; but how do we know that a few centuries hence, opinions, now firmly entertained, may not appear to our successors as absurd as these?

“Mutato nomine, de te fabula narratur.”

Such a survey should not prompt us to look back upon our predecessors with contempt, but upon ourselves with distrust. It should teach us to entertain a deep sense of the essential difficulties by which investigation into the treatment of disease is surrounded. It should teach, perhaps, as much as anything, that the progress and termination of diseases are so under the domination of certain great laws of the living economy, that they are far less influenced by *any* methods of interference than our pride of practice leads us to believe.

Bibliographical Notices.

Sanitary and other Papers. By HENRY G. CLARK, M.D., Boston.

THIS elegant volume, presented to the city of Boston by the late City Physician, has been placed in our hands for examination, and we cannot refrain from saying a word upon its contents.

It consists of the various published reports of Dr. Clark, or those prepared under his superintendence, from the beginning to the end of his term of faithful and valuable public service, and the whole make up a thick volume of sound, scientific, professional research and opinion, which any physician might be proud to transmit to posterity as a memorial of his fidelity.

On first opening it, one is struck with the great variety of subjects, of great practical importance to the whole community, which come under the cognizance of the City Physician, calling for the daily exercise of sound judgment and skill, not merely in professional matters, but in treating of questions more strictly within the domain of what is technically called physical science. We must acknowledge that we did not before realize the great responsibility of the office which Dr. Clark has so worthily held, and we feel that it is no more than justice to him to refer at some length to the book which is the summing up and permanent record of his labors.

The first article in the volume before us is the Report on Ventilation, by the committee of which Dr. Clark was chairman, presented to the School Committee December 30th, 1856. This is an eminently practical paper, on a subject of the very first importance, but one which is very generally disregarded; and the city is to be congratulated that it was taken up by a gentleman who made it something more than a theme for rhetorical common-places on the virtues of abundance of fresh air. The report is a plain, forcible exposition, based on careful experiments and recorded facts, of the exact amount of the vital fluid necessary for the daily health and comfort of man, and of the pernicious influence of a contaminated atmosphere. It speaks of the insufficient means which were of necessity resorted to in the hope of remedying the imperfect ventilation of the school-houses at that time, and the danger to which the scholars were thus exposed of colds and inflammatory complaints, while the evil was only partially remedied. It demonstrates, on sound principles, the errors in the construction of the furnaces then in use, by which an insufficient supply of fresh air was introduced, and that in the worst possible way to secure the object desired. It also explains the construction of a stove which it was proposed to substitute for the close stoves then used to warm primary school-rooms, &c.; and the whole concludes with a series of practical rules, thirteen in number, for the thorough ventilation and warming of the city school-houses. The report is illustrated by very useful and intelligible diagrams.

Following this report is one from a special committee, to whom was referred the application of the methods recommended by Dr. Clark, on its practical working in two of the school-houses, stamping it with the seal of the most complete success. This is followed by a Final Report, dated Dec. 9th, 1857, which is even more explicit in its directions for the proper construction of furnaces, ventilating stoves, ejecting and injecting ventilators, ventiducts, &c., with numerous illustra-

tions explaining their application to the purposes intended. The whole concludes with an Appendix, containing much useful information. The Report, or series of Reports, forms a most valuable contribution to the science of ventilation, and the city has reason to be grateful for the thoroughness and sagacity of Dr. Clark in doing a work, the value of which in its effect on the health of the rising generation cannot be over-estimated.

That Dr. Clark's fitness for regulating such matters was fully recognized, is evident from the fact, that on looking a little farther on, we find his name associated with a series of reports and resolves for the thorough ventilation of the Representatives' Hall in the State House, Dr. C. being at that time a member of the House.

The second document in Dr. Clark's book is a Report of the Joint Standing Committee on Prisons, signed by him for the Committee, from which we infer he is entitled to the credit of the whole work. It treats, in brief, of the construction of prisons, their security, salubrity, the various means of securing the health of the prisoners, with critical remarks on the State Prison and several of the jails in the Commonwealth. The effect of this Report appears at once on turning the leaf, where we find an act in four sections, in relation to the health of prisoners, designed to carry out its suggestions. A subsequent Report goes more fully into detail on the subject of prison discipline and the construction of prisons, concluding with a model plan for a county prison. Still another report contains suggestions for the wise distribution of the State money for the benefit of discharged convicts, followed by an Act adopting the suggestions.

We next come to the valuable City Document, "The Report of the Committee of Internal Health on the Asiatic Cholera, together with a Report of the City Physician on the Cholera Hospital," 1849. This last is one of the most important contributions to the history of this fearful disease. It is most thorough, leaving nothing to be desired in its completeness. Dr. Clark gives due credit to his assistants, Drs. Buckingham, Dalton and Williams, to whom he assigns the chief merit of preparing the materials of which it is made up. Without derogating from the full deserts of these gentlemen, we remember the old proverb, "*qui facit per alium*," &c., and that it is no small merit to choose one's assistants well, and put them in the way of giving the most valuable aid.

The next article is Dr. Clark's able and forcible Address, delivered before the Suffolk District Medical Society in April, 1852, on the superiority of Sanitary Measures over Quarantines; a discourse distinguished for its good sense and practical wisdom. Following this are the Senate documents on Ship Fever, published in 1853, one of which is a dissertation by Dr. Clark, interesting and valuable, as giving the fullest information on a disease at that time but little known in this neighborhood.

Other equally valuable papers are Dr. Clark's report on Yellow Fever, and the supposed danger of its introduction into Boston, in 1853, with useful suggestions growing out of its supposed contagiousness, &c. An extremely interesting report of the *post-mortem* examination of the executed murderer, Magee; containing a complete refutation of the scandalous and unprofessional charges of the London Lancet in relation thereto; demonstrating the complete want of knowledge of the laws of the phenomena on which its groundless aspersions

were based. "A draft of a Sanitary Code for Cities;" of which we can only say that it is a complete system of regulations for the preservation of the public health from those numerous sources of injury which spring up like weeds in every direction in large communities, unless the eye of the law be always open and vigilant. Thus we have the subjects of sewerage, sanitary survey, cleansing, supervision of such buildings as from their tendency to overcrowding, or the nature of the occupations carried on in them, are liable to become dangerous to the health or morals of the citizens—the laying out of our streets, drainage, ventilation, pleasure grounds, epidemic and contagious diseases, vaccination, interment of the dead, &c. &c.; for all these subjects there is a complete set of rules, most carefully drawn up, which must be of great value as a guide to legislation. We are not able to say how much of this code our own government has adopted for its own guidance, but some of its provisions, we believe, have become State Laws.

The last paper in Dr. Clark's volume is "a Plan for a Free City Hospital, with suggestions as to its location, structure, organization and support." A most admirable plan for such an institution, illustrated with excellent designs. When the city shall fairly set about this important work, it will be found that the suggestions of the late City Physician leave little to be added or changed.

Distributed through the volume before us, are several of Dr. Clark's Quarterly Reports, containing matters of interest out of the routine of the usual vaccination report. The very last in the volume, dated October 8th, 1860, contains some very forcible suggestions to the City Government in regard to some of the overcrowded localities of Boston, and points out certain tenements as demanding immediate action to avoid the dangers so inseparable from such outrageous but too often neglected centres of disease, to say nothing of the cruelty to the unfortunate tenants which the avarice of landlords inflicts in this way. And on the last page we find that it is to Dr. Clark we owe the exemption from the sickness which would undoubtedly have been caused by the consumption, as food, of the carcasses of between forty and fifty hogs, which had been fed and fattened on Spectacle Island, in Boston harbor, *on the bodies of the dead horses which were conveyed there from the various stables of the city!* Pork eaters must be indeed grateful for such an escape.

We have thus run through Dr. Clark's memorial volume, conscious that we have done but feeble justice to its sterling merits. Well may the city regret to lose the services of so faithful an officer.

A.

Electro-Physiology and Electro-Therapeutics; showing the best Methods for the Medical Uses of Electricity. By ALFRED C. GARRATT, M.D., Fellow of the Massachusetts Medical Society. "Study and search out the secrets of Nature."—*Harvey*. Second Edition, with additions. Boston: Ticknor & Fields. 1861. Pp. 716, large octavo, with 100 Illustrations.

This complete work has already been noticed by us, and the appearance of a second and enlarged edition in such quick succession upon the first, is a most gratifying and satisfactory testimony to its merits and their recognition by the profession. It really seems to be exhaustive of this department of electrical science. The present edi-

tion is not merely a reprint of the first, but contains a number of pages of new matter—as from page 114 to 117, for instance; also from page 475 to 479, a new Appendix, and some new illustrations. These accessions are evidence of the continued activity of the author in his special department of medical science, and are a new guaranty of the thoroughness of his work; they all have particular reference to practical matters, and are a valuable addition to the book. We are glad to learn that it is generally received as the best authority on the subject in any language.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON: THURSDAY, FEBRUARY 21, 1861.

DRUG INSPECTION.—We gladly print, to-day, a second communication from our correspondent on this important subject. There should be no delay in taking action upon it. We must confess, that, although we had a general impression that adulteration in drugs is a very common thing, we did not fully appreciate, until we learnt it in conversation with him, the extent to which it is carried in spite of government inspection, and that many of the sophistications practised cannot be detected without a knowledge of chemistry, such as hardly a druggist in this city possesses. We are told, for instance, that there are very few, even of our most experienced dealers, who can positively say whether the morphia has been taken from a given specimen of opium or not. We most sincerely hope that the government may be fully enlightened on this subject before the appointment of inspector is made. We do not doubt that the influence of the medical profession, based upon the genuine fitness of the candidate, would have great weight with the appointing power. We feel that the whole community are deeply interested in this matter, and for ourselves we would express great obligation to our independent and intelligent correspondent for thus bringing it to public notice.

Messrs. Editors.—For the good opinion of your correspondent's ability to act as Drug Inspector, in your last number, he would be exceedingly grateful, if he were not perfectly aware that he is not competent to fill the office. There can be no man fit for that place, who is not a practical chemist. Others may be judges of the ordinary physical appearance of drugs, and many of our older wholesale dealers may be able to judge of them so far as appearances are concerned. But what physician, with any amount of medical practice, can keep up with the newly-invented methods of adulteration? There are two kinds of adulteration—that practised before a drug is imported, and that which is the specialty of manufacturers here. The latter can be reached only by municipal or State law. In this connection, I may state, that six months ago, for a special purpose, wishing to make use of muriate of morphia, I could not find any in this city, which was capable of solution. The muriate of morphia was generally manufactured in this country.

The crude drugs of foreign origin are most of them introduced

through the ports of Boston, New York and Philadelphia. A few come by way of Baltimore, and in these cities, of course, it is most necessary that we should have capable inspectors. There are two or three gentlemen who are trying to obtain the appointment for this city. Doubtless they are estimable men, and fulfil their duties as retail druggists to the satisfaction of their customers, who know no more certainly than you or I of their qualifications. They will have the support of political friends, and some of them will have the support also of drug importers; the most dangerous advisers, as they will try to obtain the appointment of a man who will pass their drugs with as little inspection as possible.

The public are interested in this matter as much as we are, and if we can bring the names of our better-known patients to bear upon the government, we may perhaps be enabled to procure the right man for the office. I have had conversations with some of our druggists, who are willing to give their influence to such a man as the two professions may select. He should be one who could bore at random a dozen balls in a case of opium, with an instrument similar to a butter borer, and in a week's time be able to say whether it contains the average amount of morphia or not. A very few rejections of cases of opium would satisfy an exporter abroad that this country is not the place for receiving a sophisticated drug. What the importer would learn by it, is evident enough.

It is proposed that the druggists and physicians shall unite in recommending some suitable man for the office of inspector, and you will undoubtedly give the weight of your JOURNAL in his behalf, if they see fit to take such action.

C. E. B.

DEATH OF DR. H. W. ADAMS.—We are pained to be obliged to record the death of Dr. Horace Walter Adams, of this city—an event which took place on Sunday last, at his father's residence. As his case will be fully reported to the Boston Society for Medical Improvement on Monday evening next, we will merely state, at the present time, that he died, as reported to the City Registrar, of pseudo-membranous disease of the throat. A cotemporary truly says of him:—

“His good humor, warm heart, and wide information, made him a universal favorite, and he has passed away, leaving a void in his own family which can never be filled, whilst by society, to which he had been an ornament, his death will be received as a peculiar privation. Few persons more enjoyed life or were more capable of enhancing the enjoyment of others, and our own regrets mingle particularly with the mourning of those, who, though bowing to the dispensation cannot cease from lamenting the bereavement.”

“PATENT MEDICINES.”—*Messrs. Editors*,—No circumstance connected with the wholesale drug trade of this city, is more surprising than the immense demand for “patent” or proprietary remedies, on the part of the retail druggists with whom they do business. During the past five years, the demand has been constantly increasing; and instead of dozens of certain articles being ordered, they are now purchased by the gross. It is certainly safe to say that forty per cent. of the items, which make up the orders sent into the city for drugs, are for articles classed under the name of “patent medicines.” The price currents of dealers in these articles, show, that the number constantly

in demand, is between five and six hundred. They comprise pills, salves, powders, bitters, liniments, &c. &c., many of which have the most fantastic and "taking" names. Formerly, they were commissioned to druggists, now they are regular articles of sale like camphor, opium, or ipecac.

It is not uncommon for those who deal in them largely and exclusively, to make purchases of a single article, at one time, of *ten thousand* dollars in amount. Wholesale druggists are often compelled to buy in lots of *one thousand* dollars.

Notwithstanding these large sums are realized by the proprietors, the *business* of compounding and introducing nostrums is, in general, an extremely hazardous and ruinous one. The cost of winning public attention and creating a demand, is very great, and usually exceeds the profits. Where one like Ayer, Brandreth or Townsend succeeds, hundreds are driven into bankruptcy.

It is remarkable how strong and persistent is public credulity. It overrides all common sense, all experience. What is the cause of this universal and increasing demand for, and confidence in, secret remedies? Why, with the spread of intelligence, the increase of schools and libraries, should there be increased demand for remedies, the nature of which is unknown, and which ought to be regarded with suspicion by every well-informed mind?

It is a significant fact, that while Homœopathy, with its alleged small doses, claims to have a wide-spread and strong hold upon the confidence of the people, the people are pouring down enormous quantities of substances, differing essentially from their sugar pellets and attenuated solutions. The same individuals, who are the most noisy and zealous in advocating this pretentious and absurd system, are constantly dabbling in secret nostrums, and are the main supports of every variety of empiricism. N.

PERCHLORIDE OF IRON.—This powerful styptic and astringent has been heretofore, we believe, in this country, used mainly as an external application. We have heard in one instance of its successful use internally in a case of obstinate nasal hæmorrhage. We transcribe below two cases, where it proved valuable as an internal remedy, from the *British and Foreign Med.-Chir. Review* :—

Dr. Sassier, of Châlon-sur-Saône, was called to see a man aged 70, who had been seized suddenly with depression, nausea, and shiverings, and three days after these preliminary symptoms there followed epistaxis, hæmatemesis, and hæmaturia; the patient lost blood both by the gums and the rectum. At the same time petechiæ and ecchymoses were developed on the trunk and limbs. Iced drinks were ordered, together with dilute sulphuric acid, and extract of rhatany, but without success, and indeed the symptoms seemed to be increased. The hæmorrhage continued, the tongue became dry and black, and the prostration was extreme. Dr. Sassier then prescribed the perchloride of iron, dissolved in distilled water, and sweetened with syrup, to be taken in spoonfuls every hour. The next day the patient's state was the same, but on the succeeding day there was a sensible diminution of the hæmorrhage, which ceased on the third day, but the perchloride was continued for two days longer. The disease seemed to be cured, but a week afterwards the hæmorrhage reappeared, and the perchloride was again ordered, and after it had been employed two days the bleeding entirely ceased, and was never again renewed. The patient recovered after a prolonged convalescence.

Dr. Bertet relates another very severe case of purpura hæmorrhagica treated

successfully by the perchloride of iron, and in this case the remedy was employed to the exclusion of all other medicinal agents. Dr. Bertet considers that at present the perchloride of iron is the best remedy for purpura hæmorrhagica, and that in some cases it is almost infallible.

DIPHTHERIA.—Dr. Asa Horr, of Dubuque, Iowa, writes as follows to the Editor of the *New York Medical Times*:—

Diphtheria has been prevalent in this vicinity during the past six months, and the cases of late seem rather increasing in frequency and severity. Children from two to ten have been the principal subjects of attack, although infants and adults have occasionally suffered from its mildest form. It seems to have no necessary connection with scarlatina, often preceding or following, and sometimes co-existing with it. In most instances the affection has been very mild in character, but sometimes has proved rapidly fatal.

The treatment most generally pursued has been chlorate of potassa internally, cauterization with nitrate of silver, cold cloths and anodyne embrocations to the tumefied cervical glands, and the free exhibition of stimulants and tonics, with liberal diet throughout the disease. The writer has used with good effect chlorate of potassa in *tar water*, for the removal of the fætor and the detachment of diphtheritic incrustations. It was administered internally, used as a gargle, and also for a nasal injection. In some of the severest cases of late, Prof. Woodward's mercurial plan has been resorted to with satisfactory results.

The following letter on the same subject is from Dr. J. W. Bright, of Lexington, Ky., and is published in the *St. Louis Medical and Surgical Journal*:—

I received your letter a few days since, requesting my mode of treating diphtheria. In reply I would say, I give the muriate of ammonia in full doses—say, to a child eight years old and upwards, ten grains every two hours (in solution), and ten drops of the sesquichloride of iron in the intermediate hours, and these are not to be omitted for thirty-six hours; then rest four or five hours, and give them again in like manner. Continue this treatment for four or five days, according to circumstances; but at first cleanse the stomach with a gentle purgative, if the bowels should not act, once in twenty-four hours give castor oil and ol. terebinth, one ounce of the former to one ounce of the latter. If the diphtheritic crust forms, or has formed to a great extent in the throat, remove it with a fine sponge tied on a stick; the sponge should be wet with a solution of the pure nitrate of silver, forty grains to the ounce, or the sulphate of copper, one scruple to the ounce of water; this should be used only once a day. The cure should be completed by the use of tonics; I have found beeberrine the best. Diet nourishing.

I have treated three hundred and thirty-four cases after this method without the loss of one, and am now fully satisfied it is the proper mode of treating the disease.

ON THE REGENERATION OF NERVES. BY OTTO HJELT.—In this paper, which is accompanied by very beautiful illustrations, the author does not agree with Waller in believing that the process of regeneration in divided nerves is to be regarded as a new growth of nerve tubes, proceeding from the central end to the finest peripheral branches. He finds the process to consist in an excessive production of nuclei in the central as well as in the peripheral portion of the injured nerve. This nuclei-development causes the swellings upon the ends of the divided nerves. The nuclei unite by processes so as to form a regular network of long rows of nuclei connected to each other. These nuclei belong to the connective-tissue lying between the tubes. All do not unite to form this net-work, but many undergo a process of fatty degeneration. The processes connecting the longitudinally-arranged nuclei become broader, their contours more distinct, and a differentiation of sheath and contents occurs. The nuclei now appear as varicose swellings on the young nerve tubes, whilst these become more and more in-

distinct. The contents are granular, and next the sheath of the tube a clear marginal layer is deposited. The same process occurs in both of the nerve ends, but it is most active in the central one. The author supposes that a great part of the old nerve tubes unite with these newly-formed fibres. He has never met with newly-formed fibres in the course of the peripheral distribution of nerves from which a part has been cut out; but he has seen primitive nerve fibres in a more or less advanced state of fatty degeneration. These latter fibres have probably not had their connection with the new fibres established. An exudation deposit Hjelt has never seen. The essential part of the process consists in an excessive formation of nuclei, a connective-tissue formation proceeding from the nuclei of the neurilema. "Since Virchow first proved that cell elements occur in the connective tissue, he has not only described the changes which these may undergo without changing their essential character, but he has also shown convincingly that it is to these cell elements that new formations of different kinds owe their origin."—*Edinburgh Medical Journal*, from *Archiv für Pathol. Anat. und Physiol.*

VITAL STATISTICS OF BOSTON.

FOR THE WEEK ENDING SATURDAY, FEBRUARY 16th, 1861.

DEATHS.

	Males.	Females.	Total.
Deaths during the week,	32	49	81
Average Mortality of the corresponding weeks of the ten years, 1850-1860,	37.6	38.4	76.0
Average corrected to increased population,	84.9
Deaths of persons above 90,

Mortality from Prevailing Diseases.

Phthisis.	Croup.	Scar. Fev.	Pneumonia.	Measles.	Smallpox.	Dysentery.	Typhoid Fever.
19	1	2	3	0	0	0	2

METEOROLOGY.

From Observations taken at the Observatory of Harvard College.

Mean height of Barometer,	30.139	Highest point of Thermometer,	58°
Highest point of Barometer,	30.668	Lowest point of Thermometer,	26°
Lowest point of Barometer,	29.482	General direction of Wind,	SW., SE. & NE.
Mean Temperature,	38°-9	Am't of Rain (in inches)	1.357

From Observations taken by Dr. Ignatius Langer, at Davenport, Scott Co., Iowa. Latitude, 41.31 North. Longitude, 13.41 West. Height above the Sea, 585.

		BAROMETER.			THERMOMETER.			SNOW.	Mean Amount of Cloud.
		7 A.M.	2 P.M.	9 P.M.	7 A.M.	2 P.M.	9 P.M.		
Monday, Feb. 4,		29.63	29.72	29.75	12	26	11		
Tuesday, " 5,		29.71	29.64	29.56	0	12	18		
Wednesday, " 6,		29.28	29.24	29.21	25	37	31		
Thursday, " 7,		29.54	29.84	29.86	-3	-5	-5		
Friday, " 8,		29.53	29.44	29.40	2	21	18		
Saturday, " 9,		29.30	29.26	29.34	35	46	43		
Sunday, " 10,		29.30	29.17	28.93	43	44	43		

COMMUNICATIONS RECEIVED.—Trial of Richard S. Richardson and Sarah Healey for murder by Poisoning of Stephen Healey, at Auburn, N. H.—Affection of the Throat resembling Diphtheria following Varicella.—Poisoning by Scheele's Green.—Arsenite of Copper.

BOOKS RECEIVED.—Rankin's Abstract of the Medical Sciences. (From Lindsay & Blakiston, Philadelphia.)—Transactions of the American Medical Association, Vol. XIII.—Diphtheria: its Nature and Treatment. Fiske Fund Prize Essay. By D. D. Slade, M.D. (From Blanchard & Lea, Philadelphia.)

DIED.—At Pittsfield, 12th inst., suddenly, Dr. John Eastwood, a graduate of the Berkshire Medical College at the last commencement. At Petersham, Dr. William Parkhurst, 77.

DEATHS IN BOSTON for the week ending Saturday noon, February 16th, 81. Males, 32—Females, 49—Accident, 1—apoplexy, 2—inflammation of the bowels, 2—disease of the brain, 4—inflammation of the brain, 1—bronchitis, 3—cancer (of the stomach), 1—consumption, 19—convulsions, 2—croup, 1—debility, 1—diabetes, 1—diphtheria, 2—infantile diseases, 5—puerperal disease, 1—dropsy, 2—dropsy of the brain, 7—erysipelas, 1—scarlet fever, 2—typhoid fever, 2—hemorrhage, 1—disease of the heart, 5—insanity, 1—congestion of the lungs, 1—inflammation of the lungs, 3—old age, 1—pleurisy, 1—teething, 1—unknown, 5—inflammation of the uterus, 2.

Under 5 years of age, 33—between 5 and 20 years, 3—between 20 and 40 years, 20—between 40 and 60 years, 13—above 60 years, 12. Born in the United States, 55—Ireland, 17—other places, 9.